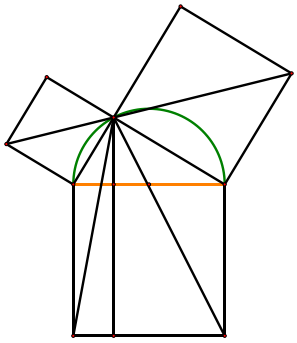
Exponents—What Euclid Missed

Wednesday, July 12, 2023

There is a particularly interesting transformation of the figure Book 1 Proposition 47,

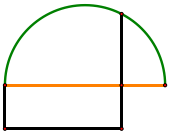
B1P47: *In right-angled triangles the square on the side subtending the right angle is equal to the squares on the sides containing the right angle.*

which is commonly referred to as the Pythagorean Theorem, what Euclid's shows the world, is that the Pythagorean Theorem, is no such thing, it is just one example of one result, of parallel lines.



And if one want to take the squaring of any rectilineal figure at all, we have Book 2 Proposition 14.

B2P14: *To construct a square equal to a given rectilineal figure.*



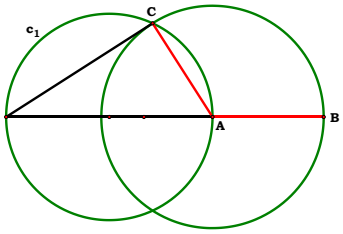
Which is derived from parsing any rectilinear figure into triangles, and it provides the equation for any segment, the result being a circle, which should tell one that the compass we use to produce the circle is the product of a unit and every possible division of that unit into two segments; meaning that the circle is the product of our straightedge, i.e., as soon as you have drawn your segment with a straightedge you have admitted the circle, and thus the compass. It also tells one that the mathematics, involving a circle is the product of the sum of two segments applied in two dimensions. It is the simplest figure possible, for doing the math, i.e., precedes 47 in Book 1 by that of basics and simplicity. In short, as soon as one divides any line, even the first one, one is bringing in two-dimensional computation. Secondly, the compass in geometry brings into geometry the ability of the recursion of the unit, i.e., is responsible to helping do the math. Those who claim that there are figures in geometry which are non-Euclidean, are saying that math is different from itself; and that they are too dim witted to figure that out.

Now, in Book 3 Proposition 36 we find:

B3P36: *If a point be taken outside a circle and from it there fall on the circle two straight lines, and if one of them cut the circle and the other touch it, the rectangle contained by the*

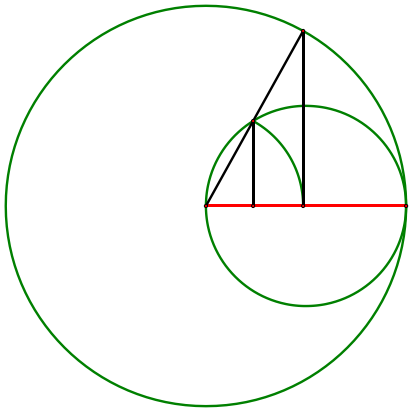
whole of the straight line which cuts the circle and the straight line intercepted on it outside between the point and the convex circumference will be equal to the square on the tangent.

Whose construction is derived from linear division like so:

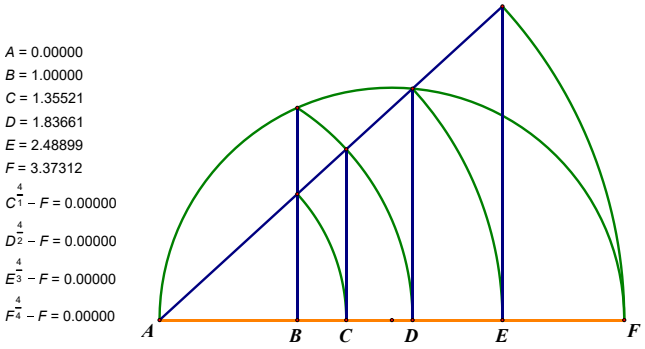


Where C1 is hidden, leaving most people unaware that AC will always equal AB. Which should have followed from B1P47. The wording should point one back to B2P14, the same thing is being done, but differently. However, this configuration hides all ties, to B1P47 and B2P14. And the result is, the question that was then being asked by geometers and mathematicians, how does one demonstrate exponential progression? It is the fault that in Book 3, Euclid's chain of reasoning is broken, as exampled by this figure. The path to the figure is broken, by implying that the starting point is somehow floating in space, unrelated to what was once meticulously demonstrated. One cannot possibly be just given a point, a point is a boundary of a line and one line must always come first in a proposition, i.e., we start by denoting some one thing; a point is not, as both Plato and Aristotle noted, not a thing at all, and thus cannot be predicated of. There are a number of these faults in the Elements.

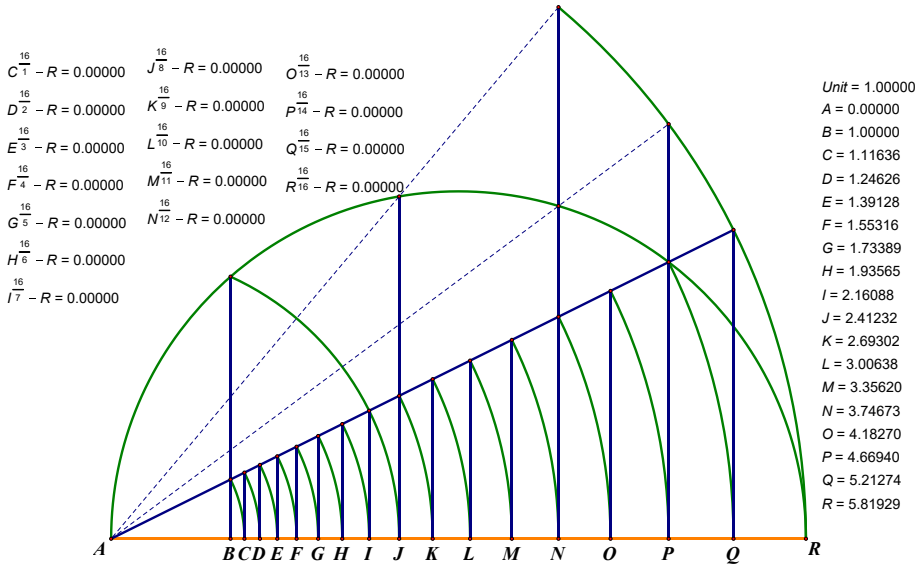
Back in 1993, I wrote up how to do exponential series in Geometry. I took a slightly different path than the demonstration in Euclid. If one watch Euclid's demonstration they will notice that although the figure is perfectly correct, the division which is started is linear, i.e., one is thinking in terms of dividing a line; a one-dimensional progression. Thus, geometer's from then on, were trapped into one-dimensional thinking. In Euclid, one starts with two circles produced by dividing one line. The result is perfectly correct, but the figure is now showing a blindness to dimensional progression in favor of linear progression. Geometers tried and tried to break the cycle, tried to find out how to divide exponentially, but it is not a linear problem and they could not solve it. Even in some current math books today, exponential notational series is claimed impossible in geometry.



Notice what I did differently; I took the figure back to the most primitive figure of the three, B2P14. As is correct, the line differentiates between the unit, and what it is in ratio to. But then, I draw the Universe of discourse over the whole and let the perpendicular of the unit divide it. With that I divide the line, which gives exactly the same result as one finds in Euclid, however, it now offers one a method to continue to divide exponentially as one did with the unit.



Let me show it again, this time, let us more fully see the power of dimensional progression, for it has everything to do with how we think.



Euclid is broken; or rather, unfinished. The sequence of constructions, branch off and this branching is left out, things which should come first was never achieved in the work. Euclid remains a data set, sorely in need of organization which provides clarity. Cultivating the primitive human desire for sycophants and those they praise, like Pythagoras, has never been rational. Finding a particular result, when there are unlimited results and making someone as noteworthy for performing the sequence already available, would create the world's largest telephone book which is never finished, and probably each one in the phonebook would have their particular sycophants. What a horrible consequence.

One must wonder then, why has no one noticed that faults and broken logic in Euclid? I would say, evolution. Many people find one-dimensional thinking impossible, and two is harder still. Yet it is what Plato called Dialectic, and exampled by our computer's today. Every thing is defined in terms of the two elements, and therefore, an author trying to formalize it should never forget that order, the correct order, can be achieved, and that one has to note the branching, so that it always remains clear, it is not linear at all. Linear thinkers tend to spin off into the ozone layer, and hallucinate that there are more mathematics than just one, they multiply the one randomly, instead of rationally following it. As a thing is defined as a binary construct, it is wholly impossible for any other mathematics to evolve, and it is this obvious fact, which blatantly label all those who claim this math, that math, this or that calculus, are simply functionally illiterate.

What Euclid missed in the Elements, has been missed by everyone teaching grammar. Every grammar effects binary recursion in accordance with a specific convention of names, however, Common Grammar, Arithmetic, and Algebra, do not pair the mind with the hand, i.e., they cannot teach you about grammar because, of the two categories of names, which can a grammar assert? Hint, it is all your mind can do, parse information. I.e., between the correlative, that is noun, and the relative, that is verb, all one can do with the hand, and the mind, is assert the noun, the correlative. In geometry, it is called a point; the relative, i.e., verb, or line, is always a given. All grammars are a method of parsing information. This means that those who claim that there are more than four grammar systems, i.e., methods of asserting the noun, or correlative, are simply illiterate. Our ability to construct systems of Grammar are two squared which produce a Grammar Matrix, Common Grammar, Arithmetic, Algebra and Geometry. And of those four, only one pairs the correlative with a pen, and the relative with the motion of the hand, and that only to provide one with two concepts, the line, provided by the straightedge, and the compass denoting the recursion of it, or in short, the mathematical operations performable with it. And unless one takes the time to learn this fact, they will always be spouting gibberish in every system of grammar, and spinning off into the ozone layer with mythology.

Exactly how is it possible, that the parsing of information, i.e., can be more than asserting a boundary using four indexing methods? It is not. No matter how

dim witted you are, if you cannot master two intelligibles to be made into two perceptibles, then you are not teachable. The two elements of a thing are Dialectical, and Dialect is not gibberish as our intelligentsia claim today. Plato did not invent it, no more than Euclid invent geometry, and more so, that some crack-pot can possibly create a new way to think. The people who graduate from every educational institution on earth today, are very proud because they do not even suspect that they are illiterate; they have not mastered two times two as applied to the very grammar they believe they know.

Our whole Universe, by the definition of a thing, which is a binary construct, shows that mankind has never, like Plato, and the writer of the JCS, actually comprehended what their eyes was showing them.